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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,535	06/25/2001	Sung-Hee Lee	Q65101	5805

7590 05/12/2005

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EXAMINER
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VO, TUNG T

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/887,535

Applicant(s)

LEE, SUNG-HEE

Examiner

Tung Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/22/2005 has been entered.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Crinon et al. (US 6,249,613).

Re claims 1 and 7, Crinon discloses a video decoder having a digital image stabilization function (39 of fig. 5B), the decoder comprising:

a VLD (37, 39 and 45 of fig. 5B) for separating an image information (37 of fig. 5B) and an additional information (45 of fig. 5B) from an encoded bit stream (38 of fig. 5B);

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a global motion computation unit (31 of fig. 5B) for extracting a motion vector of a macroblock unit from the additional information applied from the VLD (fig. 4) and computing a global motion vector using a local motion vector with respect to a background region in an additional information from the VLD (col. 6, lines 24-67); a time-based integration unit (43 of fig. 5B) for extracting a frame type (note the VLD is inherently extracting the frame type, e.g. I frame, P frame, or B frame, inter or intra frame and Define the various residuals that are used by this invention:  $RES(j,k)$ : The transmitted residual at the macroblock (j,k). This residual results from computing the difference between the predictor (reference) image in either the MOSAIC  $MBType(j, k)=MOSAIC$  or *SKIP*) or *the previous frame type* from VOP 16  $MBType(j,k)=INTER1V$ , or  $INTER4V$ ) and the data in the macroblock 15 depending on which macroblock type has been selected. The value of  $RES(j,k)$  is 0 if the macroblock is of type NTRA) from the additional information, judging whether global motion vector is integrated according to the extracted frame type to generate a judgment (40-50 of fig. 7, e.g. extracting the MB from the frame, wherein the MB type represents a frame so called frame type, see figures 2-4) and integrating a global motion vector from the global motion computation unit based on the judgment (col. 6. lines 51-67, see also 58, 66 of fig. 8); and

a global motion compensation unit (22, 39, 43 and 45 of fig. 5B) for motion compensating (Note the global motion estimation residual is the difference between the macroblock 15 and the global motion compensated pixel array in the previous VOP 16. In other words, the  $GMER(j,k)$  is the difference between the macro-block 15 and a corresponding pixel array in the previous block 16 after removing the effects of camera rotation, zoom, perspective angle changes, etc. Global motion parameters are encoded and transmitted with each VOP 18.

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The calculation of  $GMER(j,k)$  is described in further detail in FIG. 8.) and stabilizing a recovery image using a global motion vector integrated by the time-based integration unit (note the mosaic decoder (45 of fig. 5B) decoding or recovering image using the global vectors, which global motion parameters are used to align and compose the images in order to reconstruct a panoramic view of the scene, also called a mosaic, the global motion parameters are also used to stabilize the video sequences generated by the video camera).

Re claim 2, Crinon further discloses wherein said global motion computation unit (fig. 7, ip details) (42, 46, 50 of fig. 7) classifies local motion vectors of the macroblock (inter or intra MB, fig. 7) in the additional information into a local motion vector with respect to the motion on the block ground region using a clustering technique (MOSAIC or SKIP, 42 of fig. 7) and detects a global motion vector (50 of fig. 7) through the classified local motion vectors of the background region.

Re claims 3 and 8, Crinon further discloses wherein said global motion computation unit include: a local motion vector detector (2 of fig. 6) for receiving an additional information from the VLD and extracting the local motion vectors by the macro block unit (col. 7, lines 36-56), a motion separating processor (4 of fig. 6) for separating the local motion vectors extracted by the local motion vector detector and separating a local motion vector concerning the motion of the background region (col. 7, line 62 through col. 8, line 51); and a global motion vector detector (50 of fig. 7) for detecting one global motion vector based on the local motion vector of the background region separated by the motion separation processor.

Re claims 4 and 9, Crinon further discloses wherein said motion separation processor includes: a similar motion estimation unit (2 of fig. 6; and 40, 42, 44, 46, and 48) for separating

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the local motion vectors extracted from the local motion vector detector into a certain number of clusters (col. 7, lines 36-56) ; and a background motion selector (62, 64, 66, and 68 of fig. 8) for selecting a cluster which has a motion of the background region among the clusters separated by the similar motion estimation unit.

Re claims 5 and 10, Crinon further discloses wherein said time-based integration unit includes a frame type extraction unit (40 and 42 of fig. 7) for extracting a frame type from the additional information from the VLD; and a global motion vector integration unit (50 of fig. 7) for integrating the global motion vector based on the frame type extracted by the frame type extraction processor.

Re claims 6 and 11, Crinon further discloses wherein said time-based integration unit (22, 43 of fig. 5B) directly integrates the global motion vector in the case that the frame type is "I" Md "P", and the B-frame in the case of B-frame (2 of fig. 6, and 40 of fig. 7, e.g. VOP comprises I, P and B frame according to MPEG-4 standard).

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the previous Office Action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris. Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tung Vo  
Primary Examiner  
Art Unit 2613